



The Raleigh Amateur Radio Society's **EXCITER**

GET INVOLVED

- RARS General Membership meeting: Second Tuesday of the month.
- The RARS net meets every night except Saturday @ 8 p.m. on 146.640.
- The RARS Technical & Trader's net: Saturdays @ 8:00 PM on 146.64.
- RARS meets for a monthly dinner on the First Tuesday of each month.



PUBLIC SERVICE EVENTS

Interested in helping? Visit
<https://www.rars.org/public-service.php>

frequently for our 2019
ham public service
schedule.

RARS General Meeting

Topic: Using a Drone to Capture Video Images for
UNC TV by Bob Gunter, PBS VideoGrapher

Date: February 12, 2019

Time: Meeting at 7:30PM

Informal gathering and refreshments from 7 - 7:30 p.m.

Where: Ridge Road Baptist Church. 2011 Ridge Rd., Raleigh

New HAM meeting, 6:00 p.m. before member meeting

Tadd Torborg, KA2DEW, New Ham Meeting Coordinator

[Click here for more information.](#)

Presidents Comments

By Carl Davis, W8WZ

February is the month of the North Carolina QSO Party. This fun operating event is sponsored by The Raleigh Amateur Radio Society and will take place Sunday, February 24, 2019 from 10 AM to 8 PM Eastern Time.

The first running of the North Carolina QSO Party was sponsored by RARS in 1970. Since that time the contest has been run by the Alamance ARC and the Forsyth ARC, and in 2013 returned to RARS. This year's NCQP Committee is made up of: W4MY, AA9P, W4WNT, W4MPS, WB4DCM, N4MIO & NE4Y. Many thanks to this team for their hard work to make this event a success.

[Continued on page 4](#)

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The Raleigh Amateur Radio Society

The Raleigh Amateur Radio Society, Inc. (RARS) was founded in 1969 and continues to serve and support the amateur radio community in the greater Triangle area. In 1999, the society incorporated a new RARS and obtained 501(c)(3) non-profit tax status.

The objectives of the club are to promote worldwide friendship through amateur radio; to be of public service by providing radio communications in times of disaster, emergency, or civic needs; to educate members in radio technique, and to provide training classes to assist in obtaining amateur radio licenses.

Anyone interested in amateur radio is eligible to apply for membership. Dues for regular licensed amateurs are \$18 per year (from July 1 through June 30). Additional immediate family members pay \$5 each per year. Dues for licensed amateurs older than 59 or younger than 16 are \$12 per year. Dues for non-licensed associate members are \$9 per year. Applications for membership may be obtained from the treasurer or on the RARS website (www.rars.org).

Exciter

The Exciter is the official newsletter of the Raleigh Amateur Radio Society. It appears each month as a PDF on the RARS website at www.rars.org. Members receive email notification when the latest version is available. Please provide your email address to the Treasurer.

The Exciter welcomes articles, advertisements, and other contributions. To submit a piece to the newsletter, please contact the Editor. The Editor reserves the right to edit any and all pieces. The submission deadline for each month's Exciter is the third Friday of the preceding month. All submissions must be final. Drafts are not accepted.

The views expressed in the Exciter are those of the individual authors and do not necessarily reflect the views of the Editor or RARS.

Tom Lewis, N4TL, editor (editor@rars.org)

For Your Information

RARS General Meeting

Date: Second Tuesday of each month

Location: Ridge Road Baptist Church 2011
Ridge Road Raleigh, NC, 27607

Time: People begin arriving at 7 p.m. The
meeting officially begins at 7:30 p.m.

RARS Monthly Dinner

All members and guests are welcome to
the monthly (first Tuesday) RARS Supper,
6:30PM, at the Golden Corral Restaurant,
6129 Glenwood Ave., Raleigh. Informal and
Dutch, just bring your appetite and best rag to
chew. 73, Chuck, K4HF

RARS Repeaters in Raleigh

146.640 and 444.525

Join us for the nightly RARS net at 8 p.m.
on the 146.640 repeater. All hams holding a
Technician class license or higher are invited
to check in. We welcome both RARS and non-
RARS members to the net.

There is a net Listing on the RARS
website click here. [https://www.rars.org/
nets.php](https://www.rars.org/nets.php)

VE Testing

The RARS VEs will accept walk-in testing in
February, May, August and December at
5:30PM, prior to RARS membership meetings
at Ridge Road Baptist Church; the RARSfest
in April; the Cary Swapfest in July; the
JARSfest in November; and following RARS
license classes. Please bring a photo ID, your
original and a copy of your current license,
your \$14 exam fee, and any valid CSCEs that
prove passing elements beyond that of your
current license. Visit <https://www.rars.org> for
more information.

January 2019

RARS Net Monthly Summary

Checkins: 547

Traffic Brought/Passed: 10/10

Minutes: 1168

Sessions: 31

Special 10 Meter Net

Checkins: 18

Minutes: 64

Sessions: 1

Virginia Enzor NC4VA

RARS Net Manager

Future Hamfests

A full list of Hamfests can be found at the
[ARRL website.](#)

03/08/2019 | [North Carolina Section Convention
\(Charlotte Hamfest\)](#)

Location: Concord, NC

Type: ARRL Convention

Sponsor: Mecklenburg Amateur Radio Society

Website: <http://charlottehamfest.org>

04/20/2019 | [North Carolina State Convention
\(Raleigh Hamfest\)](#)

Location: Raleigh, NC

Type: ARRL Convention

Sponsor: RARS

Website: <http://rarsfest.org>

President's Message continued

The Object of the QSO Party is for amateur radio operators outside the state of North Carolina to make contact with North Carolina stations. Amateur radio operators within North Carolina, activating as many NC counties as possible, making contact with everyone, including other NC stations.

You can participate from your home station or participate at the RARS club station which is being hosted by Joe and Liz White (WA4GIR & KO4CK) at their home located at 863 NEODAK ROAD, APEX, NC 27523. Joe and Liz are kind enough to open their home for this event each year and much fun is had by those who gather there to operate in the QSO party from their well-equipped HF station as well as visit together and enjoy talking about our favorite hobby. All levels of experience are welcome at this station. This is a great chance for Technician Class operators to be able to work HF Phone because a control operator will be present at the station. If you don't have other plans for NCQP consider participating at the RARS station. For more information please e-mail Joe at WA4GIR@ARRL.ORG Thanks to Joe & Liz for their generous hospitality and leadership.

If you end up working some Rare DX as part of the NCQP or just regular DX as part of your regular operating remember that RARS is now offering QSL card service through the ARRL Bureau to our members. Simply bring your outgoing cards, properly sorted and a check made out to ARRL for the postage (\$1.15 per ounce) along with a copy of your QST label to show you are an ARRL member and give them to Tom, N4TL at any RARS meeting. He will then send all of our cards to the Bureau together to economize on postage and RARS will pay the \$7.00 QSL Bureau fee charged by the ARRL for this service. This is the cheapest way to do your paper QSLs and an added value you experience by being both a member of RARS and the ARRL. Thanks to N4TL for organizing this effort.

In March we will be celebrating the 50th Birthday of the Raleigh Amateur Radio Society. We have some special things planned for the March Meeting so please put that meeting on your calendar and plan to attend and help us celebrate 50 years.



RARS January Membership Meeting

The presentation during our January meeting was about The world of high power Medium wave and Shortwave broadcasting.



Lauren Libby, W0LD

January Membership Meeting, Door Prize winners



Left to Right: Albert Reynolds, N4AGG; Steve Ferrarini, KJ4BX; Tim Dassinger, KD4MBC;
David Guthrie, WA4DAG; Asif Rizvi, W4EMD; Louis Alexander, K4BYN;
Bob Richards, W4GIA; Mark Beason, KM4PFO

RARS Net Trivia

Virginia Enzor NC4VA, RARS Net Manager

Every week I ask a question on the Wednesday night RARS Net to encourage conversation and to find out more about our RARS Net friends.

On a recent net in January the question was, "How long have you been a licensed ham?" We had 16 out of 25 check ins who stayed in for the ragchew and answered the question. Here are the results.

The ham licensed the longest was Howard Goodman N4KYW with 60 years under his belt. Second runner up was Bob Brown N4GEB with 47 years.

Our newest hams were Mike Butler K4MBX, licensed in April 2018 and Ryan Leathers N4RL, licensed in May 2018.

The total number of years of licensure for all respondents was 259 years! That's a lot of ham radio experience.

I then calculated the mean, median, and the mode.

The mean is what most folks intend when they say "average." The mean for the group was 16.2 years.

The median of a set of numbers is the number in the middle when the numbers are arranged in order of magnitude. Our median was 13.5 years.

The mode is the number in a set of numbers which occurs the most. Our mode was 1 year. New hams are checking in!

If you have a question that you think net participants would enjoy answering, please submit it to me at nc4va@nc.rr.com.

WebSDR

*A WebSDR is a Software-Defined Radio receiver connected to the internet, allowing many listeners to listen and tune it simultaneously.

*<http://www.websdr.org/>

Free guide on FT8

Thanks to Curt Phillips W4CP for sending this to the Exciter.

http://www.g4ifb.com/FT8_Hinson_tips_for_HF_DXers.pdf

Carolina Weekend QSO Parties

As you make plans for activities in the New Year, keep the Carolina Weekend in mind. We are looking forward to the two Carolina state QSO parties on Saturday, February 23 and Sunday, February 24, 2019. Celebrating 5 years of collaboration between the North and South Carolina QSO Party committees, a new bonus arrangement has been created called the Chairman's Challenge. Work Dave, WN4AFP, on Saturday in the SCQP and Marty, W4MY, on Sunday in the NCQP for bonus points. There is a special gift card for the winner of a drawing from all who work both stations.

The SC QSO Party will be on Saturday. It has Phone, CW and Digital categories as well as fixed, mobile, QRP, low and high power. Their bonus county will be Abbeville. For SC stations, your exchange in Callsign and County. Further information is found on the SC QSO Party website, www.scqso.com

The NC QSO Party, is on Sunday. For the stations in NC, this gives you the opportunity to be the DX for a change. Stations all over the world will be looking for NC stations to fill their log. Your county is the multiplier in this event, so the exchange is simple: Your Call and Your County. The website has a list of the three letter county abbreviations that are used in this exciting event at our website <http://ncqsoparty.org/> .

The NC event has Phone, CW and Digital categories and low and high power categories as well as mobile and Expedition operations. Details are on the website.

Looking forward to hearing you on the air for both QSO Parties in February!

Bill Turner, W4WNT

For the NC QSO Party Committee

Future RARS Meeting Topics

Titles, topics, and speakers subject to change.

2/12/2019	Using a Drone to Capture Video Images for UNC TV	Bob Gunter, PBS VideoGrapher
3/12/2019	Awards, RARS Birthday Party (2/12/69) & RARSfest Update RARSfest date April 20th	RARSfest Chair Tara Goodwin W4TSW
4/9/2019	Restoration of a Collins KWM-1 transceiver	John Green, KX4P
5/14/2019	Amateur Radio Direction Finding with a demonstration on 2 and 80 meters	Ruth Bromer, WB4QZG, & Joseph Huberman, K5JGH

*New HAM meeting, 6:00 p.m. before the
member meeting*

Tadd Torborg, KA2DEW, New Ham meeting Coordinator

*The New Hams meeting is held every month before the regular RARS meeting.
We'll try to start by 6pm. We try to address topics in a manner that will be of help
to hams in their first year of operation.*



Tadd Torborg, KA2DEW

In January the New Ham meeting was about ham-shack tools. We brought in almost all of the tools recommended on the list at <http://torborg.com/a> and had a lively discussion about some of the tools a new ham might not have run into.

In February, we'll talk about coax cables, connectors, coax loss, testing coax, adapters, water damage. We'll also put some connectors on coax and talk about tools.

For the future.. We're looking for somebody who can bring in a smart-phone or laptop PC based oscilloscope for some future meeting. We'll bring in an old and a new Tektronix scope as well as a \$30 DSO scope and run them through some paces. Please email KA2DEW, or grab me at a meeting. Thanks!

Tadd - KA2DEW North Raleigh

RARS Birthdays

Rick	KN4ORA	02/01
Sue	W2GHK	02/02
Jonathan	KN4EVA	02/02
LOS	AF0AA	02/03
Selene	KG4RMT	02/03
Lillian	KC4AYH	02/04
Grady	KJ4RZU	02/05
Artie	KC2JFU	02/05
Chris	KM4RJQ	02/06
Larry	N4LEW	02/07
Kevin	KN4CDH	02/07
Tom	N4TL	02/13
Greg	KN4DRP	02/13
Dennis	WZ0Q	02/13
Tony	K1OC	02/14
Kathy	N4KLW	02/15
Roy	KT4EM	02/15
Jim	W2PAU	02/16
Dave	KK4ELT	02/16
Dick	WW4NC	02/16
Howard	N4KYW	02/19
Roger	K4KDX	02/20
Jim	WH6JQ	02/20
Joe	N1LVN	02/21
Israel	N4ZVU	02/21
Steve	KE4COB	02/22
Peter	KN4JJW	02/23
Charlie	WA3UTC	02/24
Joe	W4TTO	02/25
Carl	W8WZ	02/26
Bob	WX4MMM	02/26

RARS Birthdays Continued

Mary	KG4OQA	02/28
Kathleen	KM4CSF	02/28
Greg	K4RAX	02/28

New RARS Members

Walter Wenzel	KA2RGI
Carol Wenzel	KA2VYH
David Briest	Not Licensed
Bruce Sherman	KI4PAC
Bill Habicht II	W3IMD
George Dolicker	N2GXC
Steven Ashton	KD4STA

Minutes

Both the board and the general meeting minutes will be published Next month

Spotlight on RARS Net Friends

Virginia Enzor NC4VA, RARS Net Manager



This month's column features a ham who has been a RARS net "regular" for years. He has some very good tips for new hams.

The RARS net meets at 8:00 PM on the 146.64 repeater every evening! Please check in; we would love to hear about your day.

Spotlight on David Crawford

1. Name, Callsign & License Class
David Crawford KF4VXJ, General

2. Year originally licensed
1998

3. How did you get into ham radio?
RARS Scanner and SWL SIG. Was given an ARRL Technician license manual by the guys, and was encouraged by Tommy Babb, Marshall Sherard, and the other ham members.



4. What aspects of the hobby currently interest you?
Emcomm and Field Day

5. Positions you hold or have held in RARS or other organizations
AEC Wake ARES, Director Carolina Apple Core

6. Any special awards? (DXCC, WAS, WAC, IOTA, etc)
None

7. Any special project you are currently working on?
Everything is on the back burner right now, but I have about 4-5 ideas I'd like to pursue.

David Crawford, KF4VXJ

Continued from the previous page



David Crawford's Shack

8. Interest outside of radio?

Computers

9. Words of advice for new hams?

Jump in, and get on the air. Participate in nets.

Get involved in SKYWARN.

Find an Elmer.

Don't hesitate to ask questions and ask for advice. (Translation: learn from the other guy's mistakes)

Experiment!

Try simplex.

Don't limit yourself to 2 meters. Try the other bands you have privileges in.

Join both the ARRL and the local club(s), and use the assets they have.

Program your radios (especially handhelds) with more than just a couple of repeaters such as the '64 and '88. You'll never know when you'll need to go to a repeater you normally don't use, or operate on simplex frequencies. We had an ice storm about 14 years ago, and many repeaters were off the air due to power loss.

Have a means of backup power for your home station.

The Successful Ham

Vic, VE3YT and Fred, KE7X are pleased to introduce “The Successful Ham Radio Operator’s Handbook”, a new book aimed at new or returning hams to help them learn about the exciting challenges ham radio offers us today and to help them be successful. We would be pleased if you would tell people about it in your club newsletter.

<http://www.ke7x.com/successful>

73, Fred and Vic

MIT Radio Society, EE and Computer Science Department Hosting Radio Technology Lectures

The Massachusetts Institute of Technology (MIT) Radio Society (W1MX) and the Department of Electrical Engineering and Computer Science (EECS) are hosting a series of public lectures on “everything radio,” presented by academics and industry professionals. The series began on Tuesday, January 8.

Sessions are also accessible via YouTube, courtesy of MIT Student Cable (January 8 lecture).

Each self-contained talk addresses a different facet of radio, ranging from modulation, propagation, and Amateur Radio, to radar, radio astronomy, space-based applications, and cellular and 5G technology. No prior experience with radio is necessary.

The schedule and speakers list is on the EECS Independent Activities Period (IAP) page, under the Radio Technology, History, and Applications tab (click “Expand All” to view). For more information, contact Daniel Sheen, KC1EPN.

[Link to ARRL website with up-to-date information.](#)

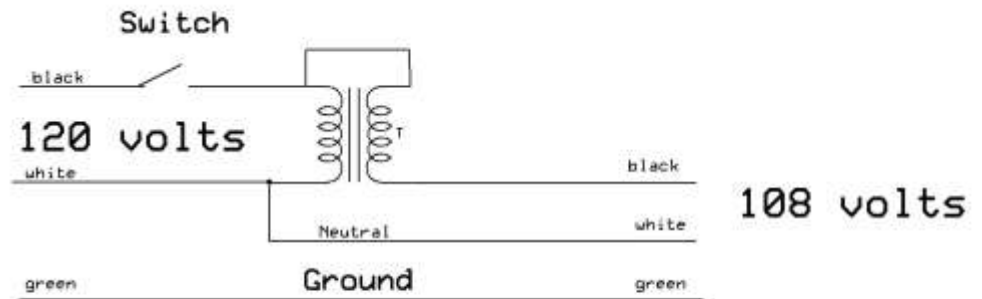
Thanks to Albert N4AGG for sending this to the Exciter.

<https://www.rars.org>

Is your line voltage too high for your vintage radio?

The line voltage delivered by power companies in the USA has risen over the years. It started out at 110VAC, then it went to 115, 117 and higher. Many homes now have 125 and 127 VAC. Running old radios that were designed for 115 VAC at the higher voltage will cause them to run hotter and shorten the life of the vacuum tubes. The line bucking circuit shown below is a way to lower the line voltage by 12 volts.

This circuit uses a three amp 12 volt power transformer. It will power vintage equipment that does not draw more than three amps. If your line voltage is 120, the output will be $120 - 12 = 108$ VAC. $127 - 12 = 115$ VAC.



12 volt, 3 amp transformer
used to generate 108 volts

Make sure its wired correctly or you will get 132 volts



73 Tom N4TL

TVI a thing of the past? Maybe not

Hams in Wake County who use 30 meters, 20 meters, 17 meters, or 15 meters haven't had to worry much about television interference (TVI) since the cutover from analog to digital TV nine years ago. Only two TV transmitters in Wake County are currently using VHF: WTVD on 198-204 MHz (RF or "physical" channel 11) and WAUG-LD on 180-186 MHz (RF channel 9). All other local TV stations went to UHF at 470 MHz or higher.

TVI from ham transmitters is more likely to occur in "low VHF", RF channels 2-6. But beware that in the 12 months, WAUG-LD will move to 66-72 MHz (RF channel 4). WNCN will move to 180-186 MHz (RF channel 8), and WTVD will move to 186-192 MHz (RF channel 9).

Let's ignore harmonics from ham transmitters higher than the 10th. For RF channel 4, TVI could come from hams 30 meters (7th harmonic) or 20 meters (5th). For RF channel 8, it's 17 meters (10th). For RF channel 9, it's 15 meters (9th).

Be particularly clean with respect to RF channel 4 because as a university station, WAUG-LD operates at lower power. Furthermore, the odd harmonics of 30 and 20 meters line up with RF channel 4. Your HF antenna is more likely to be effective on odd harmonics than even harmonics.

Old-timers know that that analog TV receivers were more sensitive to some parts of the 6 MHz channel than others. If your harmonic happened to land in an insensitive area of the channel, the TVI could be negligible. But that's not the case with digital TV, whose signal fills almost all of the 6 MHz.

Keep your harmonics suppressed and you will have no TVI problems to deal with. FCC Rule 97.307(d) has the relevant information for an HF transmitter. Depending on its age, your harmonics may have to be as much as 43 dB down from the fundamental transmit frequency. 43 dB is a large ratio... 20,000 to 1! If your HF transmitter puts 100 watts into coax, every harmonic in the TV bands must be less than 5 milliwatts. That's not much.

Accurate measurement of harmonics used to require expensive equipment such as a spectrum analyzer or a professional-quality receiver. Spectrum analyzers have come down in price, however. Or, you can get a rough assessment of your harmonic output in VHF from an inexpensive SDR dongle and PC freeware.

A brute-force low pass filter at 30 MHz can prevent TVI, especially if you have an old HF rig. These LPFs are often available for low prices from the used market. Just be sure that capacitors inside an old LPF are still intact.

73 Chuck Till

K4RGN@ARRL.NET

Raleigh, Wake County, North Carolina, 27613, USA (FM05pv81)

RARS Classifieds

Copied from <https://www.rars.org/classifieds.php>

The items below were listed within the last 30 days on the RARS website.

Aluminum antenna tower by Universal Towers

Posted January 24th, 2019 by: W4TSW

Contact: tarakm4zsz@gmail.com

For sale. 50-ft 5 section Aluminum antenna tower by Universal Towers and an 8 band Hy-gain AV-640 vertical antenna. Everything is in great condition and worked great prior to being disconnected. Low SWR averaging 1.0-1.2 with a 1.5 high on the low end of the 40-meter band but this can be adjusted to the users preference. his antenna and tower system withstood the highest gusts Hurricane Florence could muster (+70 gusts) in our area.

I started with a Universal Towers #4-30, 30-ft free standing tower kit and called the factory to see what I had to do to increase the height to 50-ft. They recommended adding a 14

Misc Working Ham Gear

Posted January 8th, 2019 by: K4HF

Contact: k4hf@arrl.net

MFJ Model 464 CW Keyer/Reader w/manual, excellent condx - \$85

Alinco DR 135 2 Meter 50W FM mobile in working condition - \$75

2 Meter Mobile Mag Mount antenna, 19" - \$10

Contact me by E Mail, preferred, or (919) 872-6555

Thanks, Chuck